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Seventh and Eighth Grades

Nott William Flint

Nature Study: Wood, the most widely used material in the world for purposes of construction, is the subject for the month. The class will begin with a study of the various kinds of wood used in their own room—in desks, floor, doors, casings, trimmings, etc.—and afterward of samples brought in by the teacher.

I. **SELECTION OF WOOD.** The question, What leads to the choice of certain woods for certain uses? will afford the class much of original thinking. What kind would you choose for flooring? for staircases? for doors and casings? for framework and joists? (Note: Wood for the framework of a house must be of special size to save waste in labor of cutting and of material. It must be light, stiff, insect-proof, able to season without warping, and easily workable; it need not have grain and color, nor need it be a wood that dresses well.) What kind would you choose for piano? For furniture? For carriages? What are the essential qualities that guide you in each choice?

II. **STRUCTURE.** The study of the structure of wood is by far the most important inquiry in this work, for the answers to all questions depending on this subject will be solved finally with reference to structure. It is important, therefore, that there be in the class-room boards of the staple woods—pine, oak, hemlock, willow, cherry, ash, and mahogany—together with cross-sections of the various trees, the more of these latter, the better. Let the pupils determine and note what are the essential characteristics, and what the essential differences, among all these kinds.

Such questions as these may be asked: Why is oak heavier, stronger, and tougher than pine? Why harder to cut, saw, and plane? What are knots and cross-grains, and why do they weaken timber? Why does wood sometimes check (crack) while drying? Why do some woods split easily and straight, while others curl and twist? Some kinds take on a hard, fine polish, and others finish roughly—why?

These questions would lead, of course, to a consideration of the structure of wood in trees; this study can be taken up at once, or deferred until later.

Let the children study the structure of wood as shown in some characteristic cross-section of a tree: the bark, the sap-wood, the concentric rings, the pith, and the radiating lines (medullary rays). Have them note the difference in color between the pith and the sap-wood; also what function these parts perform in the life of the tree.

A study of the annual annular growth of trees would in itself afford more than enough work for the month. What does the class think the rings are? Why are some rings thicker and some thinner than the average? Why is the pith not always in the middle? Or why are some of the rings thicker on one side? (What would happen to a tree that got better exposure to light and air and better nourishment on one side?) Draw a picture showing how a tree each year molds upon itself a new, cone-like sheath.

If you cut a section from the base of a tree, and another from one of the big branches, would each section show the same number of rings? Why not? If a tree section has fifty rings, a branch thirty, and another branch twenty, at what time in the tree's life did the branches grow?

Give the children different boards and ask them to find out exactly from what part of the log each board was cut. (Note: This can usually be done by completing the rings found in the end of the board.) Would young wood be heavier and stronger than old? Why?

Another good way to study wood structure is to test the strength of different kinds and of different cuts of wood. This may be done by splitting pieces of the same length and size from the different kinds of wood, and then, after supporting the ends, by hanging weights from the center till the sticks break. Afterward try the same experiment with pieces cut across the grain.

III. GROWTH OF WOOD FORESTS. Where do the different woods grow? Latitudes?

Pine, oak, and hemlock in the north temperate zone and in the mountains and highlands of the south temperate zone. Mahogany in Central America and the Antilles.

Effect of forests on economy of earth. How do trees affect the mitigation of heat and cold, humidity, enrichment of soil?

Trees afford shelter for man and beast, and are used for fuel and timber, dyes, drugs, and gums.

Logging methods: Show pictures of logging camps. Discuss the great waste of our forests, and the necessity of better forestry laws. What ought the country do to protect its forests?

References: U. S. Government Reports on *Woods*; Jackman, *Nature Study*.

History: Leaving the story of Rome at the Augustan Age, the class will begin to work back to the history of Britain and the English. The transition will be made through the story of the Teutonic migrations. The class, remembering the Germans from their study of Cæsar's second campaign in Gaul, will now be ready to take up the stories of the Teutonic invasions into the Roman Empire.

Let the children read out of class the stories of Alaric, Odoacer, Theodori, Genseric, and Attila, and discuss in class the bearing of what these men did on the government and history of the Roman Empire.

The causes of the invasions will be worked out next—(1) land-hunger, (2) personal ambition of leaders, (3) pressure from the east and north of Pan-Slavic peoples—together with the character of the Teutonic tribes. From descriptions of their tools and weapons, let the class discover the occupations and manner of living of the Teutons. Read here from Tacitus' *Germania*.

Special emphasis should be put on the consideration of the Teutonic tribal government, since out of that government probably came the English folk-moot, and our own New England town-meeting.

What idea or ideas would suggest themselves to such a people—fierce, hardy, and brave—dwelling on the Roman frontier, seeing before them the well-tilled fields of Gaul, and hearing more and more often of the splendor,

the wealth, and the luxury of Rome? And if you add to this condition a pressure upon themselves from fiercer and more savage tribes to the north and east, what would inevitably happen?

Then, make a point of the fact that nearly all of these Teutonic invasions were essentially migrations rather than mere military adventures. Let the class see that the migratory movement was not only into Italy and the southern Roman provinces, but also into lands north and west of the Teutonic home-lands; into Scandinavia; along and down the valleys of the German rivers to the sea. Show the class a map on which the probable homes of the Jutes, Angles, and Saxons are indicated, and let them read the story of Hengist and Horsa. This will bring them directly to England and the Saxon settlements on the southeast coasts of Britain.

The question of why Vortigern called in the Saxons to help against the Picts and Scots will raise another question: Why could not Rome protect her colony? The answers to this question will show that the Roman boundaries were no longer extending, but falling back, and that the Roman power was no longer sufficient to maintain the large body of the Roman Empire.

The class will recall that Cæsar was the first Roman to enter Britain with an army of conquest. The character of the British whom Cæsar met can be developed as was that of the Germans; *i. e.*, from descriptions of the weapons, tools, clothing, and houses of the British the class will think out the manner of the Celtic life.

A good deal of emphasis will be laid on the Druidical religion through a study of its form and of its curious temples. See pictures of Stonehenge. The class should learn the difference between a dolmen and a cromlech, and should form their own opinions of what these things meant to the Celtic priests and worshipers. If time permits, some study will be made of early man in Britain, through the relics of stone he has left.

References: Higginson and Channing, *English History for Americans*; Myers, *Medieval and Modern History*; Kirkland, *History of England*; *Stories of the Gothic Invasions*; *Encyclopedia Britannica*; Boyd-Dawkins, *Early Man in Britain*; Waterloo, *Story of Ab*.

Art Expression: Paintings and drawings of stone tools and of implements used by early man in Britain. Water-color paintings illus-

trating the customs of men in the Stone Age. Pictures of the Teutons or Goths.

Geography: The British Islands and Scandinavia will be the geographical study for March and April, in correlation with the history. The class will take up Scandinavia in connection with the story of the Norse invasions of England. The close relation between the larger historical divisions and the natural physical divisions of these countries will be constantly insisted on—that the character of the land guided the long struggles by allowing the defenders to make good resistance against successive invaders. Thus it will be shown that England, Wales, Scotland, Ireland, the Isle of Man, and the Channel Islands, although making a complete political union, are really natural units.

I. POSITION AND EXTENT, in reference to climate. On a large map of the world the pupils will study the 50th and 60th parallels of north latitude, which include the British Isles, and they will carefully note the climatic conditions obtaining in all parts of the earth lying between these parallels. (See Bartholomew's Commercial Map, or any physical map that will show the mean isothermal lines on the earth for July and for January.) Mean isothermal lines for January in England: 40°; South Siberia, 0°; Alaska, 20°; Labrador, 10°. For July: England, 60°; Siberia, 70°; Labrador, 50°; Alaska, 60°.

1. In studying to explain the cause of such great differences in temperature through the same parallels of latitude, the class will discover the importance of ocean winds and currents as modifiers of climate. (Note: In order that the pupils may follow this study as a unit it will be best to have a large class map to show the isothermal lines, ocean winds, and currents.)

2. (a) The gulf stream: its cause, direction, and effect. (b) The Labrador current. (c) The Japan current.

II. GEOLOGICAL FORMATION: Although no great mountain ranges or great rivers are to be found in the British Isles, there is so great a variety of land-forms resulting from remote geological changes and the more recent effect

of erosion, that the class will study through these islands: (1) how land surfaces may be formed; (2) the wearing away of land surfaces (erosions); (3) the movements of the earth's crusts up and down (diastrophism).

1. Formation: (a) The western and northern part of Scotland is like Scandinavia in formation. What would this indicate?

(b) South and east of Scotland lie the carboniferous strata of England, and further east and south plains like those of western France. What are and have been the character and occupations of the people living in these various parts? [Note in this connection the density of population in the British Isles. In 1898 population averaged 330 per square mile. But in England density is 500 per square mile. The bare Highlands are almost unpopulated; greatest density of population in the mineral fields, and near certain seaports.]

2. Erosion: How does it come to be that in the British Isles the highest land and best scenery is in the north and west, and the lower and more uniform surfaces to the south and east? The answer to this question and its complementary ones will bring out the whole subject of erosion.

"The northern and western regions have possibly been on the whole land areas since an early geological period; the rocks of the south and east have been formed by the sediments worn off the northern lands and spread out on the shores of seas, or in great fresh lakes."—H. R. MILL.

This subject will be developed in the class by the use of books, pictures, maps, questions, and all the forms of expression.

3. Diastrophism: Let the class study the western coasts of England, Scotland, and Scandinavia on their maps. They will find it island-starred, and indented with long fjords and rias.

If a volcanic country, worn and cut by erosion into a complex system of valleys, should have its coast tilted into the sea a little what would happen? Consider drowned valleys in other parts of the earth.

(To be continued in April.)

References: Mill, *International Geography*; Reclus, *Earth and Its Inhabitants*; Bartholomew, *Atlas of Commercial Geography*; Davis, *Physical Geography*; Tan, *First Book in Physical Geography*.

Art Expression: Chalk-modeling of typical landscapes showing effects of erosion. Water-

color paintings of landscapes typical of British Isles.

Latin: (See Ninth Grade outline.)

Oral Reading: These grades will continue the reading of *Julius Caesar*.

Music: (MISS GOODRICH.) The results of first attempts at original composition were not very satisfactory; that is, the children were self-conscious and distrustful and the melody finally evolved in the half-hour was trite, monotonous, and somewhat sentimental. This is perhaps partly, though not wholly, due to the unfortunate choice of text. The melody consists merely of a patching together of the phrases they have heard most often. This patch-work, of course, is of no value; it is a mere exercise of memory. Unless the children show some strong desire to go on with this work, and succeed in producing original melodies, it will soon be discontinued.

Songs: *Pussy Willow's Secret*, *A Man's a Man for a' That*, *Songs of Life and Nature*; *The First Grass*, *Winter and Spring*, Modern Music Series, Third Book; *A Song of Praise*, *Come, Thou, Almighty King*, Modern Music Series, Second Book.

French: (Mlle. ASHLEMAN.) The French will grow out of the history work:

I. The thought of the reading lessons will be illustrated by the dramatic presentation of the most characteristic events in the lives of Robert the Devil, William the Conqueror, Edward I., and Harold, as shown in the accompanying play, *Robert le Diable et Guillaume le Conquérant*.

II. For French conversation, discussion of the culture and customs of the Normans, and comparison with those of the Saxons.

1. Introduction of French customs and French language by Edward I.

2. Use of the French words by the lord, while the farmer retained the Saxon words.

3. Examples of cases in English where both Saxon and French words are retained: der Ochs, the ox; le bœuf, the beef; das Schaaf, the sheep; le mouton, the mutton; das Kalb, the calf; le veau, the veal, etc.

III. Reading of *Ivanhoe*.

Robert le Diable

et

Guillaume le Conquérant

[AVERTISSEMENT: Robert le Diable parvint à la couronne ducal par un fratricide. Son âme le trouble. Il veut aller à Jérusalem visiter le tombeau de notre Seigneur. Il rassemble les barons de son duché et leur déclare son intention.]

Scène I

(Normandie.)

Robert le Diable, Guillaume (son fils), Barons.

Robert. Barons, vous les grands de mon royaume, je vous rassemble aujourd'hui pour vous déclarer mon intention d'aller à Jérusalem! Je veux aller verser des larmes au sépulcre pour obtenir de Dieu le pardon de mon crime.

Premier Baron (étonné). Monseigneur, vous, vous voulez aller à Jérusalem!

Deuxième Baron. Ah! Qu'allons nous devenir sans notre chef!

Troisième Baron. Notre patrie, notre pauvre patrie! Quel désordre nous allons de nouveau subir.

Robert le Diable. Par ma foi, je ne vous laisse pas sans seigneur! Je vous présente mon fils unique, Guillaume. Choisissez cet enfant pour mon successeur si je ne reviens pas de mon pèlerinage. (A son fils s'attendrissant). Guillaume, quoique vous n'ayez pas encore huit ans, mon enfant, je vous fais mon héritier!

Premier Baron. Nous sommes satisfaits de jurer fidélité à un prince du sang de Roland.

Robert le Diable (ému). Mon fils avant de partir je te metrai sous la protection du roi de France Henri I^{er}. N'oublie jamais le sang qui coule dans tes veines, mais, mais (*vivement*) fais mieux que ton père! Sois un jour non, Guillaume le Diable, mais Guillaume le Conquérant!

[**AVERTISSEMENT:** Le père d'Edouard I., roi d'Angleterre, avait reçu l'hospitalité à la cour des ducs de Normandie.

Edouard avait passé son enfance en Normandie, il ne connaissait guère les mœurs des Anglais lorsque les Anglo-Saxons l'appelèrent au trône d'Angleterre.

Edouard I., d'un caractère simple et généreux, admit avec faveur à sa cour, à son foyer et à sa table les hommes de Gaule, les amis qui avaient adouci sa longue infortune. Il oublia presque qu'il devait sa couronne aux Saxons, et non aux Normands.

Les Normands et les Français fiers de leur instruction, de la culture de leur esprit, de l'amitié d'Edouard, tournèrent en ridicule les coutumes des Saxons moins civilisés.

Les Anglais de race noble, ceux qui voulaient plaire au roi, parlèrent français, adoptèrent les mœurs, les usages, l'écriture, les vêtements, et les jeux même des Normands.

Le duc de Normandie vint aussi à la cour de Londres, entouré d'une suite brillante pour visiter son royal parent.

Edouard le reçut avec affection et le combla de présents, il lui promit même (secrètement) de le faire son héritier.]

Scène II (Angleterre.)

Edouard I, Harold (fils de Godwin).

Harold. Mon roi, je viens demander la permission d'aller réclamer en votre nom la délivrance de mon frère Vulnoth et de mon neveu Haco, que vous avez exigé comme otages. Vous n'avez plus de motifs pour les garder. Voilà plus de dix ans que Guillaume les retient à sa cour dans une sorte de captivité.

Edouard I. Je consens volontiers à me dessaisir des otages, mais, Harold, ne va pas les chercher toi-même! Je ne veux pas te refuser, mais, si tu pars, ce sera contre mon gré. Je connais bien le duc Guillaume: il te hait et ne t'accordera rien à moins d'y trouver un profit. Choisis un autre ambassadeur!

Harold. Mon roi, vos alarmes, ce sont des rêves; permettez moi de partir entouré de mes joyeux compagnons! Je m'embarquerai dans un port du Sussex.

Scène III (Normandie.)

Guillaume et Harold couchés sous la même tente.

Guillaume. Harold, j'ai une confiance à te faire.

Écoute! Quand Edouard et moi, nous vivions sous le même toit, il me promit, si jamais il devenait roi en Angleterre, de me faire héritier, de son royaume. Harold, si tu veux m'aider à réaliser cette promesse, je t'accorderai tout ce que tu me demanderas.

Harold (surpris, troublé). Ah!

Guillaume. Oui, je vois tu consens. Il faut que tu jures de fortifier le château de Douvres et de le livrer à mes gens d'armes dès que je l'exigerai, ta sœur épousera un de mes barons, toi-même tu prendras en mariage ma fille Adèle! Pour gage de ta promesse, tu me laisseras l'un des deux otages, que je ramènerai moi-même lorsque j'entrerais comme roi en Angleterre.

Scène IV (Salle de Conseil à Avranches.)

Barons, seigneurs. Guillaume, assis sous un dais, la couronne ducal en tête, l'épée nue à la main. Harold.

Guillaume. Apportez les deux reliquaires, posez les sur ce drap d'or. (*À Harold.*) Je te prie devant cette noble assemblée de confirmer par serment ce que tu m'as promis.

Harold (pris au dépourvu, hésite, puis étendant la main avec trouble sur les deux reliquaires). Je jure d'exécuter toutes mes conventions avec vous, duc, pourvu que je vécusse, et que Dieu m'y aidasse!

Les assistants (répètent). Ke Dex li dont. Que Dieu l'aide.

Guillaume. Qu'on enlève le drap d'or! (*On découvre une cuve, remplie jusqu'aux bords des ossements et des reliques des saints les plus vénérés.*)

Harold (frémit, change de visage). Dieu, une cuve des corps saints! J'ai prêté serment sur des ossements vénérés.

Scène V

(Angleterre, près de Hastings, 28 septembre, 1066.)

L'armée normande touche au sol de l'Angleterre. Archers, court vêtus et tondu sur les oreilles, après tous les gens d'armes, prêts à combattre, vivres, tous les

charpentiers, massons, ouvriers de bras, après le duc. Comme Guillaume met le pied sur le rivage, il trébuche et tombe sur la face.

Ceux qui l'entourent. Dieu nous garde! Voilà un mauvais présage!

Guillaume (en se relevant). Que dites-vous donc? J'ai saisi cette terre de mes mains, et, par la splendeur de Dieu, tout est à nous tant qu'il y en aura.

The High School

Latin, Eighth and Ninth Grades: (KATHARINE M. STILWELL.) The students who began Latin in the Eighth Grade and those who began it in the Ninth Grade were found to be so near together in the quality of their work in January that they were put into one class, and January, therefore, was spent in helping them to become more familiar with the ideas and forms of expression used in Lessons I-VII and in the reading lessons of the Eighth Grade.

Lessons IX and X were in consequence not taken up until February.

In working out "The Epitaph of a Fair Roman" it was thought best to add to this a full account of the Roman funeral that the pupils may comprehend the ideas underlying these ceremonies. We wish them to see how, when a Roman died, all the ancestors of the family went to the funeral each wearing his robes of office and bearing the civic wreaths or other symbols of honor he had won, and how the funeral train halted in the Forum to hear recounted the brave and noble deeds of the dead Roman and his ancestors. Thus the pupil may get some idea of how deeply each individual Roman felt his debt to the past and his duty to the future—his obligation to make his own

life as noble and useful as the lives of his ancestors had been—so that his descendants also might praise him in the years to come. This "sense of social duty," as it has been called, which is perhaps the most important contribution of Rome to civilization, found its most picturesque expression in this formal procession in honor of the dead.

The description of the funeral ceremonies will be the next reading of the class. This will be followed by the lessons adapted from *Viri Romae*. In working out this series of lessons, no effort has been made to teach the forms other than as they occur in the reading lessons. Yet form has not been overlooked, for it is the tool by means of which the work is to be done. But it is found that when the content of the lesson seems valuable to the pupil, the effort to gain that content creates an impulse which carries him over the difficulties of the forms. In the recitation, however, the difficult sentences are studied by means of thought analysis. For instance, in the story of Horatius, questions might be asked similar to the following:

What is the subject? Ancus Martius.

Who was Ancus Martius? Rēx.